

A Speculative Exploration of Digital Upstandership

Proposing a new form of social mobilization through the digital manifestations of individual upstandership

By

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Abstract

The extensive integration of technology into everyday social media has brought many socio-political complications as well as improvements in the social welfare of historically marginalized minorities. On the one hand, easy access to Twitter has encouraged citizens to expose authority's malpractices such as police brutality to hold them accountable openly, conveniently, and directly. On the other hand, default social media algorithms continue to abuse paid advertisements to overflow user content for profit. Regarding the latter, the technicality of technology, necessarily of its complexity, is subjected to the digital manipulation and exploitation of ordinary users. For instance, tech companies abuse user trust in their platforms' default settings to implant machine learning algorithms that harvest user data as well as reinforce user addiction. From algorithm control to interface design, social media giants have mastered the art of user conditioning and attention manipulation to best serve their self-interest which, like any other corporate, prioritizes profit making over the social welfare of the common. Such conflict of interests inevitably limits the social agency of ordinary individuals on centralized social media platforms. Underlying concerns about contemporary social media practice fuel skepticism about social media's adequacy of facilitating serious socio-political debates.

Acknowledging the above concerns in its digital context, this thesis presents a series of speculative designs combined with this written argument to critique the issues from passive bystandership as it advocates for active forms of digital upstandership. Upstandership, described by Marshall, is "the practice of standing up to social injustice, cradled in trust of society and oneself" (2022). Building on this definition, this thesis explores the potential of social empowerment for online communities through digitalized upstandership. Since cyberculture derives from the real-world discourse, an improvement of the social space online in itself is an improvement of that of the offline world as well.

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Statement of Contribution

This thesis document for the Master of Design in Digital Futures is directly conceived, organized, and produced solely by Geanna (Yutong) Ge under the close guidance of her primary and secondary advisors with occasional contributions from other faculties in the Digital Futures program.

As the primary advisor, Dr. Soyang Park has given constructive feedback every step of the way. She is an expert social scientist as well as a recognized scholar in the historical socio-political study of digital democracy regarding social justice and relative artistic implications. She continuously gave generous commitment of time and scholarly feedback as she helped solidify the overall theoretical foundation for this project.

Dr. Fidelia Lam patiently provided adept design critiques throughout the creative process of design production. Her deft insights helped polishing the presentation of the design deliverables in this thesis to be more visually informed and conceptually relevant to the core theme of the research.

Both faculty instructors, Dr. Emma Westecott and Dr. Cindy Poremba, lent a constructive eye from time to time to improve the professional format and the efficiency of the main research narrative of this thesis publication.

Introduction

Cyberspace is no longer an escape, but a core component of the current reality. As the line between on and offline worlds blurs, we must come to terms with the fact that digital actions have real-life impacts that involve individual users as well as larger social entities. In 2017, Harvard University rescinded offers of admission to at least ten incoming first-year students upon a student report of the explicitly offensive, mostly child-involved, and sexually racist memes they posted in a Facebook group chat called 'Harvard memes for horny bourgeois teens' (Natanson, 2017). The student who reported could have simply swiped away or blocked this group chat. As for Harvard's administration, they could have dismissed the duty for disciplinary action to the incoming first-year students altogether because they were just prospective. But none of them did. Instead, they voluntarily made efforts to stand up to social injustice. This is construed in social upstandership that I am interested in exploring in this thesis. And social upstandership refers to one's voluntary effort to defend social justice. And in contrast bystandership means conscious indifference towards social injustice. The student who voluntarily reported the group chat is an example of individual upstandership. And Harvard exercised an example of institutional upstandership in its response with disciplinary actions. This is a story of successful social collaboration between two types of upstandership. The complimentary nature of this collaboration, consisting of effective efforts from both sides, partially resulted in a positive outcome at the end, fulfilling the greater social interest for the Harvard online community.

Focusing on the complimentary aspect of social collaboration in the context of social upstandership, imagine a scale with two plates hanging from the tips of the opposite sides. One represents individual upstandership where its weights come from upstander-like efforts from individual entities such as students and users. The other plate refers to upstandership exercised by larger social entities, mainly consisting of commercial and political entities such as schools, governments, and businesses. Weight means action. Its heaviness is determined by the effectiveness of that action. Only when the scale is horizontally balanced may multilateral actions be ruled as effective. Therefore, to keep it balanced, both sides must make effectively complementary contributions.

There are social challenges that are stubborn because their scales are hardly ever balanced. In the case of social media and social justice online, this thesis argues that, in today's age, the scale tilts heavily towards the institutional plate. To elaborate, social media platforms are expected to directly interfere with user conduct. As if it has become a part of their job as private social entities to enforce a universal filtering standard of user expression based not just on law and safety, but also cultural and political appropriateness. But when users exercise individual

upstandership on social media, they get labeled as activists and feminists where all their upstander-like efforts imply a personal pursuit of the performative hobby of social media activism. Focusing on the critique and discussion around the latter part of the phenomenon, this thesis rejects the common assumption of social media activism as inherently performative and advocates for the value within one's willingness to speaking up instead of staying silent. Through the speculative exploration of numerous digital forms of individual upstandership that can be practiced by everyone, this thesis proposes a better digital future where upstanders can thrive in a new digital environment.

The social value of digital upstandership comes from the understanding of digital privilege that foregrounds the conditions for social responsibility online. The digitally privileged refers to users who can use social media solely for leisure and entertainment. This, however, is not the case for many areas around the world where democracy does not reach. In authoritarian states like China, mass populations have been subjected to decades of political oppressions of basic rights such as freedom of speech. In which the mere acknowledgement of their mistreatment remains a luxury. According to *Made in China Journal*, Chinese citizens are not allowed to critique the government and can face criminal charges of 'inciting subversion of state power,' 'picking quarrels and provoking trouble,' and 'hostile foreign forces' if they do. Brave activists and feminists over the years have been detained, sentenced to prison, and some tortured in custody for demanding their rights. As of 2021, numerous citizen activists like Fang Ran and Li Qiaochu are still arrested without release dates announced. Those individuals knew the risks and consequences, which are common knowledge in China (madeinchinajournal.com, 2021). They chose to fight anyways because they also understood the importance of public acknowledgement: it is a prerequisite for reformation. If everyone who knows about social injustice says nothing about it, they are allowing it to spread to others. This passive compliance is itself an active endorsement of the oppressor, exacerbating systematic abuse and negligence. This thesis critiques the popular bystander perception that justifies the lack of acknowledgement of others' suffering as a personal choice.

Personal choice is distinct from social responsibility in the sense that a personal choice concerns only personal interest while a social responsibility entails a willingness to serve the public interest. This is exemplified by Chinese citizen activists who committed to their cause to advocate for human rights regardless of the well-known state punishments. For they believed that they were socially responsible to do so, and that this sense of responsibility to guard the public interest outweighed the concerns for their personal welfare. This thesis introduces digital upstandership as an emerging form of social responsibility in cyberspace that also strives on the voluntary nature of grassroots activism. For there remains many oppressive regimes like China that have stripped their citizens off their sociopolitical agency. The prevalence of global media technology, especially social media, has become their only available hope. And, in this case, the upstander-like digital responsibility means the voluntary use of global media platforms to speak up for those who are silenced.

Mainstream social media companies that make up most global media have long been packaging their platforms like colorful eye candies whose sole purpose is to light up their users' boring everyday lives. This thesis however will not address those platforms as such. Nor will it paint digital upstandership as fun, relaxing, or easy. Instead, this thesis will explain the capitalist intentions behind social media's trivialized purposes. The Penrose Stairs and Skull Charger, two of my three speculative designs proposed in this thesis, are designed to hint at a few common tactics of mainstream social media platforms to promote hyper capitalism and conceal digital exploitation. The systematic absence of digital literacy in our society is deliberately sustained by market powers (Kokas, 2023). Ordinary users are victims of digital manipulation and control. First revealing the exploitative nature of traditional social media platforms, this thesis then proposes the third of my three speculative pieces: M. Blockchain is a decentralized citizen media app designed to foster a new type of social media dynamic consists of algorithmic transparency and digital upstandership.

A Digital Catalyst for Social Upstandership

Research Questions:

In what ways may speculative explorations around digital awareness and non-profit decentralized social networks provide momentum for individual upstandership amongst ordinary social media users?

Mainstream platforms in the west have been filtering feeds and recommendations based on trends and profitability through centralized control and default algorithms, in creation of discriminating unprofitable stories of socio-politically insignificant individuals to the bottom of the recommender system for the least digital exposure possible. For instance, the Norwegian Refugee Council published a report analysis about the world's most neglected humanitarian crisis in 2021. In their report, there have been forty-one crises across the African continent impacting more than 200,000 individuals that western users have heard little to nothing about. Among which the crisis of the Democratic Republic of the Congo, food insecurity, was ranked the highest. Up to 2021, about twenty-seven million people in the DR Congo were starving as the food prices for rice and sugar continue to double even tripling as of March 2023. Yet, according to this report, the international community only paid seconds of attention to this country in 2021 when its Nyiragongo volcano spilled lava. Furthermore, there are nine more countries including but not limited to South Sudan and Cameroon that are struggling with humanitarian emergencies of similar levels of severity and receiving almost no global attention. The report concluded this global indifference towards crises in African countries with a stark contrast of the global community's attention to Ukraine war (nrc.co, 2022).

The immense gap of distribution of media and thus user attentions in the above report reflects a harsh reality about the socially negligent aspect of private centralized media networks. The centralized nature of those networks imposes political filtering of content priority which often results in extremely polarized political contents receiving the most attention, leaving the rest of the political contents on social entities that are comparably less polarized, like the African countries in the above report, with almost no media coverage at all. Mostly privatized as commercial entities, those networks also control user exposure based on capitalist value which overrides all else. More clicks lead to a higher chance for more profit. The more profit a content makes, the more exposure it will get. And vice versa. For example, an ad of a celebrity endorsed shampoo certainly would generate more income in shorter time than a post about earthquake donations to Turkey. And since user screen time is limited, user attention becomes the currency. If those companies remove potential exposure for more profitable contents to give to less profitable ones, they lose the money they could have made through giving all the exposure to

only the more profitable ones. And private companies must make profit to survive.

Hence the need for a social network, free of the constraints of profit-based survival and centralized political polarization rises. The speculative nature of this thesis allows me to propose such a social network of decentralized nature, M. Blockchain. Not centered around profit, M. Blockchain imagines a new model of the algorithmic filtering of user content feed of what we see on our cell phone screens.

M. Blockchain's emphasis on customizable filtering for user content is inspired by both the blockchain technology (Nakamoto, 2008) as well as the mosaic theory (Kokas, 2023). The decentralizing theme of the blockchain ledger is the non-biased transparency for all users to access all transactions, incentivizing the consensus-based determination of the market situation based on the peer-to-peer computing made possible by such direct access (Peter et al., 2016). It inspired the decentralized network that maximized user transparency and agency with equitable access to information for all users, while minimizing the role and influence of the third-party mediator often played by centralized power. M. Blockchain chooses to apply most of its decentralized design to the user feed to diversify content recommendation system with algorithmic formula which cannot be corrupted by human-bias.

What we see on our screens is essential because it shapes our beliefs and values which all in turn influence how we perceive and understand the world. Originally used to describe the socio-political effects of large-scale data harvesting, the mosaic theory from *Trafficking Data* (2023) is 'the concept that apparently harmless pieces of information, when assembled together could reveal a damaging picture' (Kokas, p5). This theory brings to light the social value within marginalized realities. The collection of personal testimonies from members from marginalized communities can shed new light on vulnerable voices that are easily dismissed in the centralized media filtering system. Decentralizing the content filtering algorithms with transparency, M. Blockchain increases incidental exposures in user feed to increase the likelihood for marginalized narratives to be featured more frequently across the board.

Encountering personal testimonies of the raw reality about marginalized communities can be triggering for users from non-marginalized communities. M. Blockchain encourages users to step outside of their cognitive comfort zone to confront the urgent reality of others' agony. If it is emotionally taxing to read about it, just imagine living it. In M. Blockchain, educationally incidental exposure is delivered through the mandatory diversification of the five types of contents: likeminded, non-likeminded, randomized, controversial, and popular. Doing so prevents the formation of filter bubbles which in turn rejects mindless yet addictive consumption as it actively urges its users to consume critically and engage consciously. All of which are habits conditional to the successful cultivation of individual upstandership.

The momentum for individual upstandership comes from our aspiration as free and independent individuals to take conscious ownership of the social influences we like to exercise through our

digital activity and online conduct. The designs in this series are speculative props: they are created as speculations that represent the possibilities of potential discoveries, an imagination for a new form of digital activism.

The Speculative Design Framework

In *Speculative Everything*, it is said that the seed of creativity always takes form in imaginations and dreams at first. It is through the observing and changing of existing ways of being comes the better and the worse. Either way, the notion of change is inevitable. Speculative design comes into play when artist researchers make educated proposals through the artistic construction of futuristic visions. My understanding is that speculative design specializes in the intentional manifestation of visual languages to question and address common blind spots, often a result of the systematic lack of education. Spotlighting things that are often taken for granted, speculative art aims to prompt critical discussion and reflection through a radical shift in perspectives that could be difficult for practical design to replicate (Dunne and Raby, 2013).

Speculative methods seldomly preach core messages straight up to their audience. By choice, speculative designer incorporates vital information as visual cues that complete the artwork to invite the viewers to connect the dots themselves. Speculative design also paves way for a third opinion from the greater public as it connects its viewers to its central argument for both feedback and enlightenment. In short, Speculative design done right can convey core research findings and key messages into artistic representations and playful interactions that can speak for themselves to the everyday people in exhibition spaces. Unlike traditional scholarly expressions which emphasize preciseness and accuracy and is rather demanding of the reader's educational background, speculative design emphasizes intuitively perceptive demonstration and eloquently dramatic design which are much more accommodating and less intimidating for the wider audience to engage with as well as reflect upon.

According to Dune and Raby's '*Speculative Everything*,' dark design is a common critical design method used in this thesis that rests on the belief that the value and significance of being exposed to things outside of its viewers' comfort zone outweighs that of within (2013). It aims to provoke discomfort in its viewers which pushes the viewers to question themselves, their thoughts, reactions, and habits. Whether it be the boringly cliché assumptions they initially held about the objects at play or the instant emotional response to the dystopian, even pessimistic, exaggeration of reality that caught the viewers by surprise, dark design finds ways to catch its viewers off guard with an element of shock, pushing them out of their cognitive comfort zone. The stimulation may come across as pointless, even ridiculous, at first. But as their attention lingers over what intrigues them the most about this artwork in an exhibition space, they take part in the independent inquiry where they look within themselves, their memories, and opinions, to find ways to make sense of the artwork.

It is noted in *Radical Technologies* by Adam Greenfield in 2017 about some common

shortcomings of systems additional digital information-processing systems run by centralized coding system. The centralized nature of those systems and databases invites manipulative altering. Removing such shortcomings all together, the blockchain's elimination of a need for centralized management invented what Adam called the smart contract, a mechanism involving the automatic redistribution of digital assets inputted by users to users based on the digital setting of the contract. The neutral and thus reliable third party, the smart contract, lowers the cost of enacting agreements (p131–132). Used in the social media context for M. Blockchain, such smart contract between users and the platform then lowers the risk of content and exposure manipulations and thus user exploitation. Theoretically ideal, the smart contract as acknowledged in *Radical Technologies* also has drawbacks, mostly from the challenging execution in real world settings with various layers of jurisdiction constraints. The smart contract is supposed to operate in an open market on a global level. Most global markets today cannot afford the uniform integration of a smart contract due to conflicting jurisdictions. The businesses and workers are also not ready for the direct competition a globally decentralized market will bring (Greenfield, 2017, p133-134). The global market of social media certainly has not figured out a way to overcome the limits of government jurisdictions. It is worth mentioning that M. Blockchain, a decentralized citizen media platform, is designed as a speculative prop partially because of the concern of its likelihood to be blocked from certain user populations that it is essentially designed to serve.

Finally, the amount of separation from practical deliverables afforded by speculative design allows for the communication of meaningful insight into a problem without committing to the illustrated functionalities. This comes in handy in the cases of Skull Charger and M. Blockchain when their designs are too novel which poses risk of unintended harm to others when misused.

A Cyber Dream that Lasted for Decades

The idea of decentralization, in ways like deinstitutionalization, has been celebrated as an essential means to cyber independence since the beginning of cyberculture. John Perry Barlow's 'A Declaration of the Independence of Cyberspace,' published in 1995 and reviewed by social scientist Daniel Kreiss in *Media Independence*, is an example of a scholarly text that emphasized digital independence as early as more than two decades ago (Kreiss, 2015). It was criticized by scholars and social scientists for being irrationally idealistic and overdramatically rhetorical. The radically utopian imaginary of the future of cyberspace, however, can be appreciated in the realm of speculative design. Especially where he described cyberspace as a 'more communal, egalitarian, and ultimately nonhierarchical society' (Kreiss, 2015, p120), it resonates with this thesis's emphasis on digital democracy.

Specialist of discourse who produced the information society imaginaire in the mid-1980s are not only producing the imaginaire of a technical project of information highways of the internet...but that of a new society whose relationships with individuals, the state, and the market were changing. The digerati's discourse presented us with new forms of politics and economics, and a new definition of the self that emerged with the digital revolution' (Kreiss, 2015, p123).

It is 2023. The new society is here. Barlow's idea remains relevant as our dependence on the cyber world deepens. And the digital awareness this thesis will raise is largely relevant to the actualization of digital independence he portrays.

While there have always been dominant imaginaires, alternatives present possibilities of subverting, even altering those entrenched, shared understandings that routinely shape social life (Kreiss, 2015, p124).

Speaking of alternatives, the new digital future this thesis proposed has indeed been dreamed of by scholars and theorists decades ago. Their radical proposition of digital autonomy echoes with this thesis's design and research intentions. Let us be reminded of the initial faith around the celebration of technological inventions: not as tools for daily convenience or personal leisure, but forces that empower citizen independence and digital democracy. Such a reminder is necessary because we have grown all too comfortable with technology in recent years. I would like to critique the contemporary digital consumer culture by referring to a remark from by *Trafficking Data* (2023):

"Users wishing simply to scroll through funny videos, attend school during a Covid-19 quarantine, play video games with friends, map their family tree, or clean their floors with a robot vacuum are drawn into a transnational cycle that they neither understand nor have the

power to influence (Kokas, 2023, p9)”.

The transnational cycle here refers to the global user exploitation of big data harvesting and reuse. Building on her point, I argue that our inability to influence stems from our ignorance towards as to why we need to interfere. And we stay ignorant to cling to the comfort we get from passive consumption.

Despite the challenges, there has been an emergence of launched decentralized social networks such as Scuttlebutt Social Network and the ongoing BETA project, Project BLUESKY, which explores digital autonomy and open platform networks.

Project BLUESKY, initially founded by Twitter and now hosted by the BlueSky PBLLC, is an ongoing BETA project established and funded in 2021 that is developed around decentralized protocols of open social networks. Mentioned in Project BLUESKY’s blog, its research focuses on the use of decentralized distribution protocols to give users the choice and freedom to engage in open and durable public conversations. Portability, scale, and trust are the three essential objectives their research team has introduced (The BlueSky Team, 2022). According to Scuttlebutt Social Network’s website, SSN is a decentralized social platform that specializes in the so-called gossip protocol which protects the data of their users’ private conversations from centralized servers’ data trafficking. Unlike Project BLUESKY’s goal of facilitating open public conversations, SSN used decentralized network to secure user privacy and personal records (scuttlebutt.nz, 2019). Most decentralized networks, like SSN, specialize in tight-knit local communities. Project BLUESKY might be the first and only ongoing BETA project that is working on a market-ready decentralized global social network.

M. Blockchain, the only piece out of the three designs in this series that explores the potential of a speculative decentralized social network, is a speculative citizen media app that takes aspirations from Project BLUESKY in facilitating open and durable digital conversations amongst multicultural communities on a global scale as well as strengthening the trust between users and platforms through decentralized algorithmic portability and transparency.

In M. Blockchain, algorithmic portability and decentralized transparency are used to enhance equitable access to as well as the distribution of public information free of human bias. To give a few examples, there are customizable filtering of user content based on keywords instead of personal networks, and the autogenerated open record of user’s social activities, accessible in profile page for view-only. The public nature of this record holds users more accountable to their online action now that it reflects directly on their profiles. Equitable access to this record also improves information autonomy by making the information sources transparent and incorruptible. As for the user feed, users must type in keywords of their interests into the support (+) or reject (-) categories and modify the percentages of the five types of color-coded contents (likeminded, non-likeminded, randomized, controversial, and popular) to activate the generative process of their feeds. Users, however, cannot add or remove the types of contents in the content

formula. The formula's structure is set in stone to ensure a diversified feed based on users' existing interests using incidental exposure.

Using incidental exposure to generate content and user screen time to reinforce content engagement, M. Blockchain aims to maximize the possibility for educational cross-cultural exchanges to happen in memorable ways. Referring to Lee and Kim's study around incidental exposure in news consumption, incidental exposure is the accidental encounter of unexpected news which has become a major online source for ordinary media users to learn new things outside of traditional means such as televisions, radio systems, and press. Different depths of incidental exposure have a definitive impact on the user's learning curve of that piece of information. This means that when a user stumbles upon an unexpected news article by accident online, he has a significantly higher chance at a solid impression of that news article if he reads it fully than just skimming its preview. Moreover, the needs and gratifications theory states that the triviality of the emotional responses triggered by the exposures also has varying effects on the user's cognitive capacity to process and retain information (Lee, Kim, 2017). Additionally, the intensity of the emotions also impacts its overall triviality (Heinstrom, Yadamsurem, 2011). For example, the clip of the Turkish man holding the hand of his 14 years old daughter who was crushed and died in her bed after the earthquake that made you cry probably has a higher chance at making a stronger impression for a longer time than the laughable clip of Kim Kardashian whining over the loss of her diamond earring at sea. By mandating the incidental exposure to all five types of contents, especially the non-likeminded, randomized, and controversial, generated solely based on keywords instead of personal networks, M. Blockchain prevents filter bubbles and target advertisements from taking over its users' screens. Such removal of bias-driven centralized exposures fosters mutual trust as it makes room for interest-based incidental exposures to contents distributed by a neutrally decentralized system, impartial to the social status of their creators.

Nonetheless, M. Blockchain and Project BLUESKY are different in a few aspects centered around profit-related interests. More specifically, M. Blockchain can afford to be non-profit thanks to its speculative nature while Project BLUESKY must attend to its commercial value to prepare for its release and survival in a capitalist market. As a result, M. Blockchain can explore a diverse range of designs of decentralized systems to satisfy goals that are currently impractical, even unfeasible, from Project BLUESKY's standpoint.

For instance, on Project BLUESKY's Blog, they introduced their approach to portability which is distributing user profiles free of traditional registrational limits of centralized carriers such as emails or phone numbers. They are exploring alternatives such as self-identifiable documents such as cryptographic signatures, content-addressed data, and verifiable computation, to allow users to transfer profiles free from centralized carriers' restrictions. The conditions for users to access this specific convenience have not been announced. As a private BETA project initially funded by the social media giant, Twitter (The BlueSky Team, 2022), it is unclear if the research

development of Project BLUESKY is going to support the advancement of existing machine learning algorithms, serving tasks such as controlled monetization or the harvesting and analysis of user data, that will maintain, even consolidate, Twitter's centralized market dominance.

On the contrary, M. Blockchain has no concern for profit. Unlike most existing non-profit platforms that at least ask for monetary donations as a sign of support, as speculative as it is, M. Blockchain gets to imagine a new type of donation in a novel type of currency: its users' sense of social responsibility and ability to comprehend and sympathize with others. Not worrying about market survival, M. Blockchain's decentralized features promote the idea of digital upstandership that is actionable without materialistic commitments.



Figure 1 Bey's Slow Car

The Skull Charger, another piece in this series, is inspired by Jurgen Bey and Marti Guixé's *Bey's Slow Car* (2007) in Figure 1, a speculative conceptual furniture design of an office chair that is intended not to be mass-produced, but to question our daily use of time in the cars in busy cities (Dunne and Raby, 2013). This chair, though called a slow car, is unusable in the office or on the road. Designed without practical uses, the piece raises questions about the personal time lost in traffic. Inspired by this piece, Skull Charger prioritizes critical design expression before practical use to raise questions about our daily relationship to cell phones. The Skull Charger, like *Bey's Slow Car*, has no practical functionality. Like Jurgen and Marti, I disregarded the capitalist value altogether during the production of Skull Charger. It too is not meant for mass production nor resale.



Figure 3 Menstruation Machine Poster

The Penrose Stairs, another piece in this speculative design series, is a poster inspired by the *Menstruation Machine*, 2010, design props by Sputniko (Sputniko, 2022). It employs a similar design voice which uses things we already know to raise criticism or question about our relationship to those things (Dunne and Raby, 2013). In *The Menstruation Machine*, Sputniko puts herself in the poster with mundane props like the needles, the opened press powder, and the blood to insert a humanistic perspective into her fictional machine. Her wearable machine looks like a chastity belt. Its aluminum material constrains the wearer's posture, mimicking the stiffness women suffer when they get period cramps. It leaks fake blood and causes pain in wearer's lower abdomen occasionally to deliver a realistic menstruation experience. This artwork incites discussion around identity, biology, gender, and choice through the replication of a monthly struggle for women

(Sputniko, 2022). Inspired by this poster, *The Penrose Stairs* uses graphics of cellphone and optical illusion to illustrate the trapped cycle of selective exposure, surrounding us with only things we already know.

The following chapters contain the full descriptions of the three artworks briefly discussed above.

Chapter 1: Skull Charger for Addicts

The Skull Charger, one of my three pieces of speculative design presented here, is a dark design piece that critiques social media addiction and the types of biased user conditioning it entails.

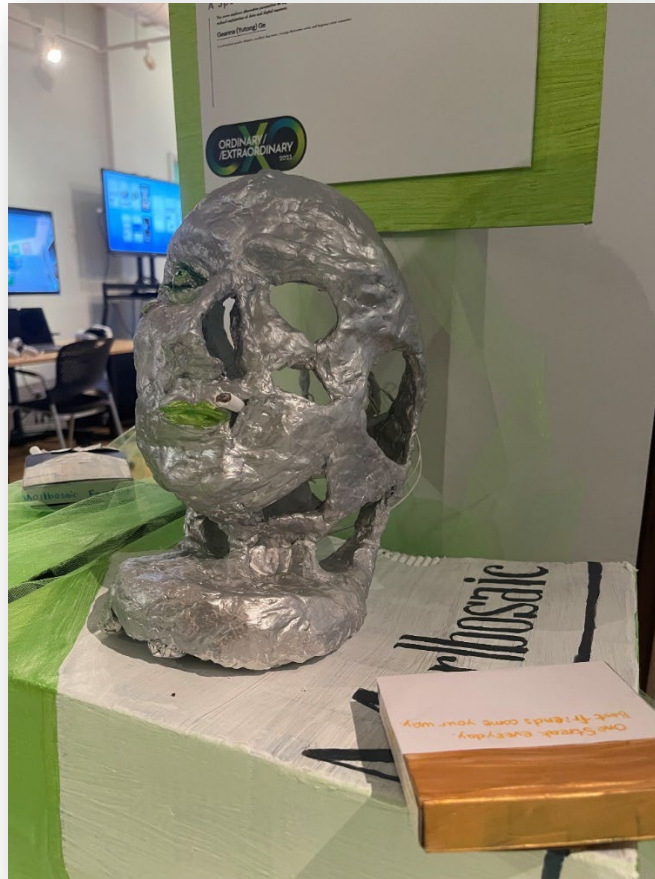


Figure 4 Skull Charger Side View

Dark design, a speculative method of critical design, creates tangible artworks out of cautionary tales as warnings about the issues at stake, pushing the boundaries set by the present in meaningful ways that rational design cannot (Dunes and Raby, 2013). Skull charger, like many speculative artworks, has no real functionality and belongs to exhibition space. When a phone is placed inside the skull, it triggers the cigarette in the skull's mouth to light up. Instead of charging the phone, it is illustrating the skull sucking the phone's electricity out to light the cigarette. Although called a charger, its illustrated functionality reverses the power dynamic

between a phone and a charger to challenge the traditional perception of power dynamic between the users and their cell phones. Social media flavored packs of cigarettes are scattered around the base of the Skull Charger. They are color-coded with signature theme colors of popular mainstream platforms: Twitter (light blue), Facebook (navy), Snapchat (gold), and Instagram (purple). The use of cigarettes hints at our ever-deepening dependency on social media and our phones in general as a wary sign of addiction that, like nicotine addiction, can do more harm than good in the long run.

Made with wire and clay, the phone holder is molded into the shape of a human hand. Major blood vessels are replaced by silver metals that are partially exposed bare. The phone holder is placed in the center-back of the inside of the skull to intentionally mirror the location of the human brain. The skull's face is half human and half skull with wrinkling skins, covered in metallic silver. All of which are designed to convey a toxic state of being, infested with social media addiction where biased conditioning of selective exposure eats away one's brain and one's dependency on cell phone slowly replaces one's independent and critical thinking skills.



Figure 5 Phone Holder

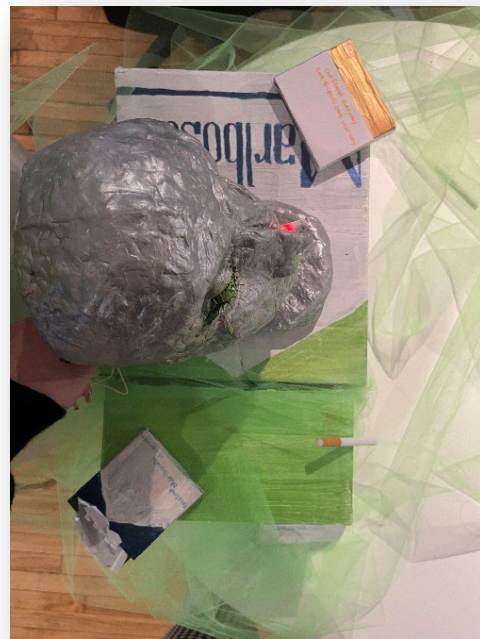


Figure 6 Phone Holder Triggered



Figure 7 Hand Placement in Skull (Prototype 2)

The illusion of the Skull using the phone's battery to light the cigarette electronically may feel absurd, hilarious, even ridiculous at first. Who would sacrifice their cell phone's battery to light a fake cigarette that is not even smoked by a real person? It is a critique of the common ignorance observed of the contemporary user culture where most users lack basic awareness and digital literacy. Specifically in the case of social media addiction, this common ignorance refers to how unaware most users are about the profitable value of the cognitive products their daily screen time activities produce for those platforms for free.

Those social media platforms have a history of conveniently leaving out, even hide, the exploitative side of their business practices in their user agreements and marketing campaigns. Which is what inspired the intentional mismatch between Skull Charger's title as a phone charger and its illustrated function as a cigarette lighter. Among others, what happened with the Grindr app is a classic demonstration of the exploitative nature of selective disclosure. Mentioned in *Trafficking Data*, The Grindr LLC, a US-based company that founded the LGBTQ+ dating app, had always marketed itself as a cyber haven for romance where users are protected be comfortable in their own skins and intimate with one another. After bought by a Chinese company, Beijing Kunlun, in 2020, Grindr LLC used the most complicated legal language

possible to modify its user privacy policy to disguise the major shift in the governance of their user data. No where did they mention that the Chinese government now has the right to complete access of all the personal information collected by Grindr on its users, including but not limited to all the nudes, texts, videos as well as users' HIV status, and sexual orientations (Kokas, 2023, p103-104). As you can see, the lack of digital literacy amongst ordinary users creates loopholes for companies like Grindr to use technology to take advantage of its users.

Tying back to the critique of addiction to social media, this piece wishes to raise awareness of the similarities between digital and nicotine addiction in the sense that, despite the short-term pleasure they bring, they more so enslave rather than enlighten us in the long run.

Understanding the Exploitative Effects of Repeated Digital Exposure

Digital addiction entails repeated digital exposure which constitutes the process of psychological conditioning. Psychological conditioning happens when frequently repeated exposures to certain concepts or opinions are internalized as a part of the user's behaviors or beliefs (Heinstrom, Yadamsurem, 2011). According to OpenStax Psychology Revisions, there are three types of psychological conditioning (classical, operant, and observational) that are proven to have definite impact on the user's brain. And user conditioning refers to the digital form of psychological conditioning, mostly reinforced through repeated digital exposure.

Classical conditioning refers to when a user grows used to associating a specific content, A, with a specific reaction, B. This association eventually turns into a habit where content A instantly triggers the reaction B. For example, when people hear Starbucks, they think of coffee. If we check out phone first thing in the morning for 30 days, it becomes a habit where we do not need to have anything to check to check our phone anyways first thing waking up. Classical conditioning can also explain the effect of desensitization, a progressive increase of the cognitive threshold that makes it harder for newly perceived information associated with desensitized content to be effectively retained (Heinstrom, Yadamsurem, 2011) Like how we've grown less interested towards the term 'fake news', desensitization happens as we are conditioned to trivialize our instant reaction which connects it to Trump.

Operant conditioning represents the association between behaviors and consequences. Positive consequence conditioning process is called reinforcement, and negative punishment. Rather than a formation of habit, operant conditioning engages with two main emotional incentives: fear and reward. Used to explain the selective exposure theory, citizens are reinforced with a rewarding feeling when they find networking with likeminded people enjoyable and pleasant. They are punished with uncomfortable confrontation with non-like-minded people, which then deters them from interpersonal exchanges of conflicting worldviews and beliefs. One can argue that the selective exposure theory can be backed up by operant conditioning.

Observational learning is the combination of classical and operant conditionings through the observing, mimicking, and internalization of others (OpenStax Psychology Revisions, OSCRiceUniversity). Teenagers follow popular influencers, celebrities, and the cool kids at school on social media for observational learning. They observe those people to search for clues they can use to fit in better and impress others. When they get it right, the social approvals they receive all reinforce them to keep trying. And this continuous process of performing social media standard of popularity in association with one's sense of worth is eventually internalized and conducted as part of one's identity. It is similarly applicable to the conditioning process of users navigating through new interfaces. They start cumulating an action memory which suggests continuous association between scheduled procedures of commands and available options of actions for digital socialization in that platform (Sjostrom, 2005). The socialization habits users developed through observational learning can be easily carried into real life.

Raising awareness about the underlying psychological impacts around digital addiction, this section provides an explanation of how an obsessive use of technology over time can enslave the human mind. Like how the human lungs develop physical dependence on nicotine through long-term use, the human brain develops mental dependence on digital exposure over time as well. Therefore, the larger digital environment conditions the users within inevitably.

Platform companies, including social media companies, use targeted user conditioning in the name of highly personalized content which fills the user feeds with ads and products the algorithms know they like to induce user addiction and increases profits. For users' online presence produces free profitable products in the form of labor and data. In *Media Independence*, it is discussed that most users have yet to recognize the hidden price of the seemingly free benefits of digital access. When we go out for a drink, we know the price we paid for the drink and the service. When we open social media apps, we still think it is free. The truth is user-generated social media platforms has made the reproduction and distribution of immaterial commodities so cost free that it becomes extremely convenient for capitalist powers to exploit free digital labors to create immaterial surplus for profit. Because the reproduction cost is minimal and the initial production is free, everything the user creates is productive labor by default. From clicking into a post (view), leaving a reaction (like count), commenting, replying (interactions), to reposting (reproduction), all the online actions user takes leave digital marks that are stored as platform company's data which gets turned into profit one way or another. Platform companies exploit the production of free digital labor of their users to create surplus of cognitive commodities out of the human experience their users input into their platforms (Khiabany, 2014). Giving platform companies the benefits of the doubts only put the users at risk for biased and addictive conditioning effects in the long run.

Informing users of the above situation can increase their sensibility towards the otherwise subtle effects of user conditioning. Users can recognize intentionally promotional posts and better defend themselves from the tendency to internalize addictive consumer habits. For such internalization is toxic. Luxuries and financial status do not determine superiority nor inferiority. Numbers of followers do not dictate one's social significance nor self-worth in real life. The

repetition of cognitive associations alone can produce a similar psychological urge that feels like desires of needs. To understand the feeling of dependency can be deceiving is the first step for anyone to break free from the psychological dependency on our cell phones. Maintaining a healthier relationship with everyday use of electronics stops us from purposeless surfing online. Rejecting indulgence in online consumption is the start for conscious self-discipline.

Design Documentation

The interaction is made through the Arduino software.

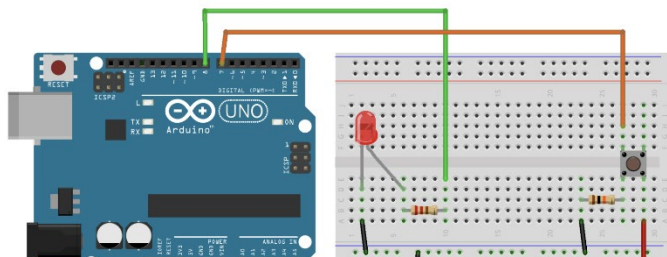


Figure 8 Electric Circuit

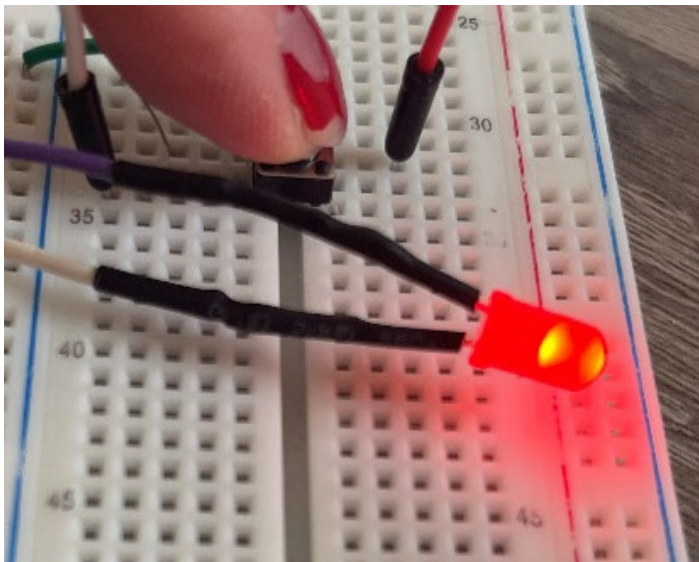


Figure 9 Soldered LED

The LED is red to illustrate the burning effect. Both the LED and the button are soldered to be long enough to connect to the hand holder and the cigarette in the Skull sculpture. When the button is pressed down (phone placed on it), the LED inside the cigarette lights up, looking like it is lit.



Figure 10 Skull Prototype 1

The LED is wrapped inside of a slightly burnt real cigarette. The skull frame is made of recyclable cardboard before clay was layered onto it. The cyborg had was also sized with wire skeleton to make sure it fits before clay and aluminum foil was layered onto it.

Chapter 2: The Penrose Stairs

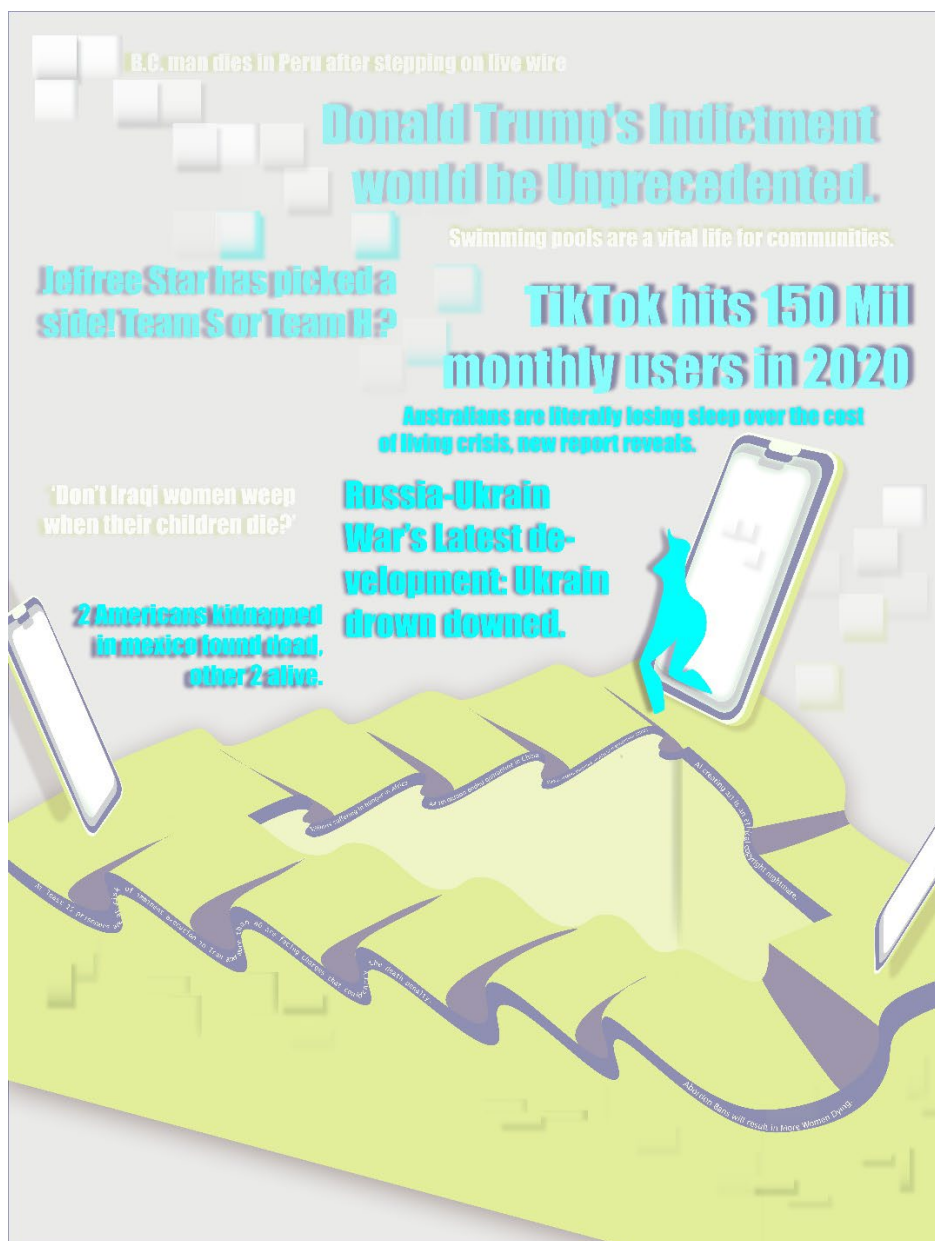


Figure 11 The Penrose Stairs Poster

The Penrose Stairs is a 2D conceptual poster which is the second piece of my speculative design that constitutes this project. Conceptual design is another speculative method that highlights concepts for critique through dramatic visualization of dystopian or utopian extension of the related current reality (Dunne and Raby, 2013). The Penrose Stairs resembles the never-ending

consumption of digital information produced infinitely. There is an irony in between the name of this poster and the phenomena it illustrates: users who can easily recognize the stairs to be an illusion struggle to grasp the illusive nature of the contemporary belief about total digital freedom even if they think they exercise it all the time. Referring to Byung-Chul Han's thoughts on this in *Psychopolitics*:

Individual freedom represents a ruse – a trick of capital. 'Free competition,' which is based on the idea of individual freedom, simply amounts to the 'relation of capital to itself as another capital.' Capital reproduces by entering relations with itself as another form of Capital: through free competition. It copulates with the Other of itself by way of individual freedom. That is, Capital exploits individual freedom in order to breed. It is not the individual who is set free by free competition; it is, rather, capital which is set free (Han, 2019, p 19).

Han's critique builds on Chapter 1's discussion around exploitative user conditioning as it elaborates on how users became products when their passive consumption produces digital capitals with monetary values. Illustrating the condition for viewers to best produce profitable capitals, this poster presents mainstream news headlines in eye catching colors and noticeable size, making it difficult for anyone to notice the tiny texts, intertwining with the stairs' shadows and corners.

Look closely, there are tiny headlines and tweets about personal and minority struggles: the A4 Revolution few months ago that ended the 3 years covid quarantine in China was the first civilian protest in China after 70 years of peace; more than 55 Iranian civilians are facing death penalty for participating in peaceful protests; as of 2023, many African countries are still suffering military attacks on top of food insecurity; the aftermath of abortion ban that is killing women in the States; and independent artists' ethical concerns regarding copyright issues due to the rise of AI-generated arts. Those recent humanitarian crises are neglected by centralized media coverage which mirrors their extremely dismissive state of representation in the visual hierarchy of this poster. Displaying just how easily selective exposure can be exploited to distract the public attention from marginalized voices in distress, this poster's visual hierarchy also resembles the tilted power dynamic between individual users and corporate powers. As clueless users use those platforms daily, they are contributing data that feed their machine learning algorithms to better manipulate their users' attention, leading them further away from the visual unconscious, represented by the tiny texts in this poster that are hardly noticeable to human eyes.

The idea of the visual unconscious takes inspiration from what Han said about big data and the digital unconscious. Han used the movie camera affording access to the optical unconscious as a fitting example of how technology has advanced to a stage where it is able to capture the details of an observation beyond the biological capacity of our human eyes. According to Han, big data reveals the digital unconscious as it reflects collective patterns of unconscious user behaviors that are hidden from the users. The owner of big data then has the upper hand to manipulate mass behavior (Han, 2019). This is a great analysis of how machine learning algorithms are helping platform companies to take control of their users.



Figure 12 Cellphone Close-up

The glowing cell phone screen works as an entry door to cyberspace. The Silhouette figure that walks through the screen onto the stairs, signaling the users uses phones as gateway to the internet. The never-ending stairs in the classic optical illusion of the Penrose stairs symbolizes the trap of an echo chamber formed with likeminded contents that keeps the user in a loop, climbing the Penrose stairs in circles.

The mosaic element in the background hints at the mosaic theory to visualize the assembling of the mosaic blocks of individual user contents into the illustrated echo chamber. Selective exposure happens to all who use digital platforms. The post presents a dystopian extension of user reality to criticize the centralized use of biased algorithms designed to manipulate user exposure.

This poster raises awareness of how centralized platforms have been utilizing technological inventions such as machine learning algorithms to surveillant and control their users in social media spaces, critiquing how the use of technology is exploiting instead of serving the public interest.

The Cycle of Selective Exposure

Selective exposure, exposed in the Penrose Stairs above, refers to the customization of content exposure based on the user's personal preferences. According to 'Incidental Exposure to Non-Like-Minded News Through Social Media: Opposing Voices in Echo-Chambers' News Feed,' mainstream social media platforms have been facilitating selective exposure through auto-generated contents, a practice that has long been debated as a threat to digital democracy. Selective exposure in social media threatens democracy because it continues to simplify the process of cultivating sociopolitical homophily as it disguises the exclusion of non-like-minded others as an act of self-care. The selective exposure theory also said that 'citizens choose the news content that matches their political and ideological positions' (Masip, Suau, and Ruiz-Cabellero, 2020).

An example of a digital platform founded on selective exposure is the extremely polarized social media platform called the Truth Social launched in early 2022 by Trump following his forced

departure from the mainstream social media platform, Twitter. Trump founded Truth Social to protest the cancel culture that eliminated his online presence in mainstream social media. In 'Key facts about Truth Social,' Truth Social claimed that it was created to defend "freedom of speech" for all against mainstream social media platforms' politically correct censorships. Despite claiming to be nonpartisan, the platform was called out by reports that revealed deliberate censorship on pro-liberal contents like prochoice arguments and criticism towards the January 6th attack (Hunt-Majer, 2022). Amongst those who regularly use those seven platforms, around 66% of them identified themselves as republicans. The platform users also clearly had their favorite topics: guns, Jan 6th attack, vaccine, LGBTQ, and abortion are the top five trending in Truth Social in June 2022 (Forman- Katz, Stocking, 2022). In another word, Twitter's ban on Trump's account worked as the perfect excuse to launch this huge echo chamber of an "alternative" social media platform that capitalized on the mainstream culture's isolation of him and his followers. There is indeed no winner here. Truth Social can only worsen the already severe divisions within the American society.

The story underneath exemplifies how repeated exposure to selective contents not only worsens division, but also reinforces biased narratives and extremist values. All of which can further marginalize the already disadvantaged minorities. To elaborate, *Media Independence* talked about what happened after the success of the Arab Spring, a story of a hashtag activist movement that first started on social media and developed into real life protests that led to the successful overthrow of a president elected through a corrupted election. The mainstream social media in the west quickly labeled the movement that started online with terms like Twitter Revolution, Wikileaks Revolution, and Facebook Revolution. The underlying structure of those terms suggests that social media was the main fuel, taking full credit for the west for making it possible while conveniently leaving out the bigger and more critical drive of all this: decades long of injustice and oppression casted onto the Arabian people by their dictators. Reducing the spotlight of the Arab Spring to the West's genius invention of new technology, they robbed the Arab communities of the chance they fought hard for the international community to acknowledge their struggles. Such social media propaganda pays no respect to the life-threatening risks that ordinary Iranian citizens took just to participate in political protests in an authoritarian regime (Khiabany, 2014).

Companies like Facebook did everything in their power to ensure that their brilliance was seen and appreciated by as many users as possible. Such self-centered narrative also denied their western users a chance at an educational exposure about the world outside of the western countries' bubble of democracy. Downplaying the efforts of all but themselves, those companies chose for their users to focus on the celebration of their success as they marginalized minority narratives away from the public's attention in the west.

To conclude, the mere existence of information somewhere on the internet does not make it always accessible nor available to all (Zuckerman, 2015). Access only expands the pool of

options. It is what the people choose to do with the access at their disposal that matters the most (Zuckerman, 2013). And users rarely exhaust all their options, especially when they have limited resources. In the case of digital consumption: the digital contents become the user option. And the limited resources are users' attention, energy, and time. Making known of the social concerns around the digital social order established by biased centralized selective exposure, the Penrose Stairs poster calls for users to consume consciously. Now that they know that the media spaces with less traffic can hold contents that can make more humanitarian use of their attention.

Design Documentation



Figure 13 1st Poster Iteration

Chapter 3: M. Blockchain

M. Blockchain is a speculative citizen media app that I designed whose role lingers in between social media and citizen journalist platform, a response to the diagnosis of digital environment that I conducted through my two other speculative designs. Heavily inspired by blockchain technology, M. Blockchain envisions a decentralized social media platform that impartially features all narratives based on transparent algorithmic filtering based on keywords and formula that generates user feed based on the individual interest of the users, instead of paid interests of businesses, politicians, or platforms. M. Blockchain removes traditional digital platforms' core purpose of making profit altogether. And replaces it with the digital facilitation of social upstandership as well as complimentary collaboration for public interest in shared media space.

What is Blockchain?

Social scientist Elsdén (2018) states, “blockchain is an emerging infrastructural technology that is proposed to fundamentally transform the ways in which people transact, trust, collaborate, organize, and identify themselves” (p.1). The blockchain technology was first invented to bypass centralized market power's monopoly. It too provides a useful model for decentralizing media monopoly. M. Blockchain modeled its key features after blockchain concepts to diminish the private market forces the chance to dictate collective narratives. Referring to Peter's ‘Understanding Bitcoin Currency and Blockchain Technology as a Media System’ in 2016, the original blockchain technology involves a distributed ledger in the form of “a real-time public record of all the Bitcoin transactions captured in the chronological order they occur” (p.4). Blockchain technology acts as the verification system that keeps track of every transaction in the Bitcoin network which legitimizes the direct peer-to-peer review process in replacement of the traditional trading process that usually involves a mediator with centralized market power. Breaking the market's reliance on centralized regulation, blockchain technology redefined the level of trade independence achievable by modern trade markets (Peter et al., 2016). Because of how each node, individual users within a blockchain, possesses the same power to access and influence the market outlook, the larger the blockchain grows, the harder it would be for intentional parties to corrupt the data system, making this decentralized data retainment method immutable and tamper-proof (Elsden et al., 2018).

Counting heavily on technical reliance and data accuracy, blockchain technology also anonymizes every node to improve the overall data safety and impartial distribution of user power (Yli-Huumo et al., 2016). Social media networks can be considered anonymized in the

sense that no verification is needed to make an account. Finally, there is extremely limited use of blockchain technology outside of the cryptocurrency market (Elsden et al., 2018). And M. Blockchain is speculative also because of an insufficient amount of related works from which to take useful reference.

The M. Blockchain App

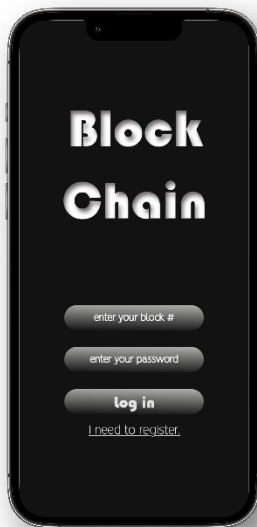


Figure 13 M. Blockchain Log-in

It is important to first explain the role of digital platforms in the 21st century. According to Srnicek's *Platform Capitalism* (2016), platforms are digital infrastructures that act as the ground for interactions between their users to take place on. This role as an intermediary naturally implies that users will input data as they use the platform services. As the platform serves its users, it is a given that it has access to those data, making user data a given asset to those platforms. Network effect is another important characteristic of digital platforms that drives the platforms to seek out tactics that recruit and retain as many users as possible. Network effect means the more users a platform gets, the more data that platform gathers, the better its algorithms get, the more valuable that platform gets. In which case the access to user data translates into control over the game, centralizing its dominance over market narrative and culture. An example of this network effect would be how Uber improves its supply chain of drivers in busy areas or during rush hours. The app's algorithms predict the surge of demand for

drivers based on user data pattern to raise the surge prices in advance. The more users Uber gets across a wider range of locations, the more accurate its prediction gets, and the newer users it attracts. We live in the age where the owners of user information become that of the digitalized infrastructures of society, an ultimate commodity for every growing digital platform for profit. Our society is built on and has been striving through the capitalist infrastructures that founded the neoliberal digital economy that exploits human emotions to brainwash users about the value within obsessing over productivity (Srnicek, 2016). A digital platform like M. Blockchain by theory should also have the potential of achieving the network effect described above. Except that this effect will not be used to empower the exploitative practice above (Han, 2019), but rather a new type of social networking that is centered around mutual interest and collaboration through digital interactions amongst ordinary users.

As social media giants continue to practice their centralized businesses in the exploitative manner above and the total absence of any type of social media platforms that specialize in purposes beyond personal satisfactions and consumeristic validations persists, a speculative exploration of an alternative type of social network becomes urgently necessary. It is time to

consider an expansion of the pool of available options when it comes to the modes of digital socialization, where user interaction systems and information distribution infrastructures may be decentralized in a socio-culturally diversified and thus inclusive way.

User Interface Semiotics with a Social Conscious

The semiotics around user interfaces consist of the social analysis of buttons and icons. Semiotics defined by the Oxford Dictionary is the study of interpretations of the design and the use of signs and symbols. According to the chapter of *'The Semiotics of User Interfaces'* in 2005, the semiotic framework works as an analytic tool that systematically reviews and interprets the technical and social implications of visual icons at six conceptual levels. There are three lower leveled analytic concepts of semiotics (physics, empirics, and syntactics) and three higher leveled interpretive concepts (semantics, pragmatics, and the social world). In which make up for the discipline of organizational semiotics which is the study of the use of signs and its social effects within a social setting (Sjostrom and Goldkuhl, 2005).

It is important to review the social effects of semiotics within a social setting to thoroughly interpret the platform culture. Adapted from Conolly and Phillips from 2002, below are two examples using the user reaction buttons in Instagram. An icon singled out versus a series of icons put together, the two tables show how icons may carry various social interpretations when perceived in different visual structures.

Analysis of a Popular Social Media UI Element

| Semiotic Level | Meaning of '♡' the like button |
|----------------|--|
| Physical | A group of pixels |
| Empiric | A visible shape |
| Syntactical | An electronically distinguishable icon that triggers an input when tapped or double tapped |
| Semantic | A carrier of a symbolic meaning |
| Pragmatic | An instrument for user-users, user-content, and user-platform communication |
| Social | A tool to publicly digitalize the user's positive interpersonal response to |

| | |
|--|---------|
| | content |
|--|---------|

Table 1

Analysis of Instagram's User Reaction Bar (Adapted from Connolly and Phillips 2002)





| Semiotic Level | Meaning of  ,  ,  ,  , the user reaction bar |
|----------------|--|
| Physical | four groups of pixels lined up next to each other |
| Empiric | A horizontally aligned set of four visible shapes |
| Syntactic | A horizontal listing of four electronically distinguishable icons that can be individually triggered through tapping to input different functional demands |
| Semantic | A set of four carriers of different meanings |
| Pragmatic | An instrumental collection of four distinct types of user-self, user-users, user-content, and user-platform communication |
| Social | A bar of four tools available for users to digitalize their responses and needs to content both internally and externally |

Table 2

App designers are obligated to pay attention to the social implications of the choices users make through the interfaces. For it has underlying influences on the user's cognitive perceptions and online habits. Traditionally, icons and interfaces are primarily responsible for guiding the users to self-navigate the app. The user experience, deciphering semiotics and using the app regularly, is often regarded as part of every user's daily routine.

This thesis calls to reconsider such user processes as a progressive learning and conditioning experience instead of routine procedures (Sjostrom, 2005). Refer to Chapter 1 to see the specifics of how repeated exposure to app interfaces may cause the internalization of their social implications. Traditional social media's ideological value provides a limited option pool for user reactions, dumbing down common social responses to only those few icons. The problem is that those common reaction icons ('heart: like,' 'downward arrow: dislike,' 'thumb up: good,' 'thumb down: bad') are not sufficiently representational nor are they specifically meaningful enough to be accurate. For instance, first used as emojis in personal digital exchanges such as texting, the heart icon has too flexible of a social capacity that implies too diverse of a range of nuanced

emotions on top of its inherent implications of support. Before social media standardized it as the icon of love, the heart icon conveyed an intimate form of affection. The overgeneralizing appropriation of all types of positive sentiment into the single heart-shaped icon is reductive and irresponsible. Mandating this icon as the only reaction button available for users to support one another raises questionable concerns. To elaborate, the Instagram feature that publicly displayed like counts by default, first introduced with good intentions, was later modified as toxically objectifying social interpretations grew overwhelmingly popular and derailed most users from perceiving this feature the intended way (Goldkuhl, 2008). The default public display of like counts was initially introduced as a positive communicative act that kept track of and celebrated the amount of appreciation users give as well as receive within the Instagram community. Instagram auto-generated user content recommendations based on the amounts of likes the posts received. When the social media influencer business boomed, it generated major profit from the mass circulation of overidealized body images. The idolization as well as objectification of digital identities as products for profit produced an overwhelming amount of anxiety and social pressure amongst general Instagram users, especially teenagers.

The social implication of the like count display soon shifted into a price tag of human worth. According to a study, 'Instagram Ranked Worst for Young People's Mental Health (the Royal Society for Public Health, 2017)', Instagram eventually came under heavy criticism for the detrimental psychological effects it imposed onto the younger generation at the time. Making the like count public by default was criticized as an unethical business strategy that induced social media obsession overtime as users get systematically peer pressured into producing better content to fit in and impress others. The more effort they invest, the more likely they are to get obsessed over social media status as they internalize the display of like counts as the standard of proof of social acceptance and self-worth. And, without a doubt, this is a toxic way to consolidate and expand the user base. As a result, Instagram added the option to hide like counts on all posts in September 2019 (Warren, 2021). Therefore, a lack of social consciousness in the traditional user interface design presents risks of misleading users to make toxic, discriminative, or objectifying, associations between the icons and the objects those icons address, especially when the objects involve humans.

Now that we have established the social significance of semiotics, I would like to introduce M. Blockchain's reiteration of the user reaction bar as an attempt to reconfigure how users process their reactions and new user behaviors. Users choose up to three reactions categorized into the five categories as shown in Figure 14: comment, disagree, support, acknowledge, and question. These categories are much more intellectually engaging, and less fun; much more rational, and less emotive. Most importantly, their social implications, instead of entertaining, convey the users' social interests.

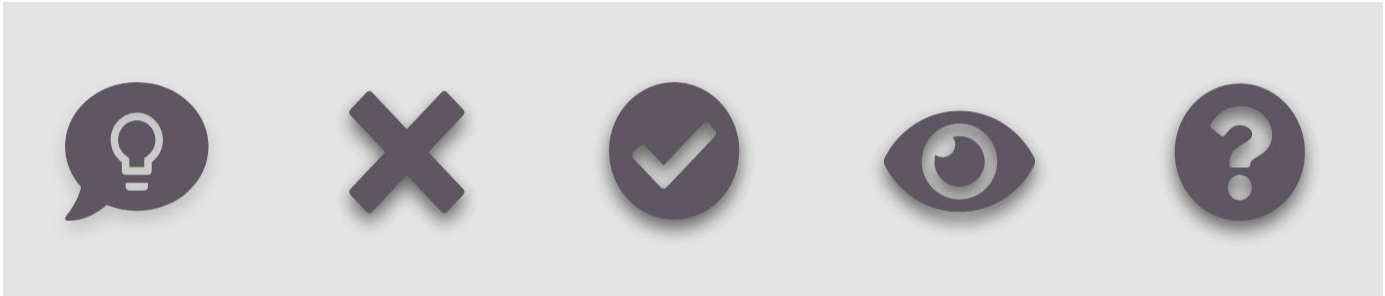


Figure 14 The User Reaction Bar in M. Blockchain

To explain the icons from the left to right, let us start with the comment icon. The lightbulb inside the text bubble emphasizes M. Blockchain's appreciation for original ideas and authentic opinions. Unlike the traditional comment section that is public by default, the comment section in M. Blockchain shows up only after the users input a comment first. Users must think independently and communicate with original expressions. Unable to see others' comments diminishes the incentive to perform for approval. Wanting to read others' comments also motivates the user to participate.

From now on, the rest of the icons indicate users' reactions to the content encountered. The next in line are the cross-out and check mark icons. Traditionally used for educational grading purposes, these two icons communicate the message of disapproval and support in a less personal manner, reducing the risk of objectifying or obsessive interpretations.

The fourth icon of an eye means a neutral acknowledgement of the content exposed. Instead of view count, this icon represents a deeper level of user interest and attention, especially on posts that are highly sensitive or controversial. Users who are hesitant to take sides right away may use this icon to express their state of interest where they are actively paying attention to and making up their minds about the post's subject.

The question mark icon expresses doubt and confusion. This reaction is important because it presents users with another option other than rejection towards content they do not understand. Such distinction matters because it socially implies that there is a difference between things unknown to users and things disliked by them.

Content Transparency through Algorithmically Customizable User Feed

Now that we have discussed the five ways for users to interact with the contents, let us dive into M. Blockchain's decentralized information distribution system generates user content based on customizable keywords as well as formulas.



Figure 15 Sample Feed Algorithm Interface

Figure 15 shows a sample of the ‘Feed Algorithm’ interface for the user persona called Alysha Haze. Living in Toronto, Alysha is a 24-year-old female Asian immigrant who works as a digital artist and owns a dog.

Alysha’s keywords reflect topics of her interests, grouped into opposing categories that show the topics she supports and condemns. Alysha cannot modify nor remove the types of contents that made up the formula. She can however edit the percentages for each. Based on her keywords, the formula generates contents reflective of their corresponding percentages.

Already elaborated in Chapter 2, centralized social media algorithms auto-generate only contents that are friendly towards the user’s interest, opinions, and preferences, removing all else without user’s consent (Bozdag, Van Den Hoven, 2015). This algorithmic blocking of counter narratives as likeminded voices overflow user’s feed is demographic clustering of the cyberspace, digital segregation in disguise (Lunardi, Machado, Maran, Oliveria, 2020). In *The Data Trafficking Dilemma* by Kokas, a recognized researcher with two decades of experience in international data and trades, she argues that social media giants became giants precisely because of the economic dominance they seized through data trafficking. They invest in machine learning algorithms like the ones used above that generate echo chambers that improve user-targeting advertisements to develop artificial intelligence. Consistent user data gathering of individuals and organizations eventually led to better platforms and services which all lay the foundation for those companies to rise to the major market powers they are today. They accomplished all these in the short spans of a few decades at the expense of user exploitations of all sorts (Kokas, 2023). For example, the Cambridge Analytica collected users’ political views in the name of

a Facebook personality test to micro-target the users to spread disinformation to in the 2016 election (Kokas, 2023, p100). As social media platforms become critical infrastructures, everyday people still struggle to comprehend the kind of power they are giving those private companies every time they share or do something on those platforms.

And M. Blockchain counters this common lack of awareness with the educational transparency

that allows users to access algorithmic filtering as well as the stored record of their in-app digital footprints. M. Blockchain decentralizes the content distribution system through accessible and editable algorithms, minimizing centralized market forces' power to directly alter anything. Using intuitive icons and easy to follow navigations, M. Blockchain translates complicated programming processes into simple steps that everyday users can follow through. This transparent customization process of one's content feed in M. Blockchain is designed with every intention to collectively increase user autonomy which further democratizes media consumption.

Digital Presence is a Privilege

The prevalent absence of user autonomy, however, did not prevent a small group of social media users from realizing the enormous potential of social media platforms as a powerful medium for social empowerment. There were few global social movements such as #BlackLivesMatter and #MeToo in which the mobilization started on private social media platforms and produced practical success in the serving of justice at the end. Nonetheless, contemporary hashtag activism in the west is inherently limited by the commercialized and centralized nature of the platforms in which it operates within.

Activism based on chance and justice based on luck are simply not good enough. As a case in point, here is a story from the interview series called "With a Verdict, Troubled Reflections" by the Washington Post in 2021 quickly after the conviction of the officer who killed Floyd. Georgia Ferrell is a mother of a Black son, shot unarmed by a police officer in North Carolina. Unlike Floyd's mother, she never got the chance to take the stand to speak before the court ruled that officer not guilty and dismissed the case. Watching the George Floyd case played out, she told the interviewer that her son, unlike Floyd, never stood a chance because there was not a video of his death. She is happy for the Floyd family but cannot find peace because there are so many of them who did not get the justice they deserve. And that there is still so much to fight for (Levine and Rogers, 2021). From Georgia's account, we see that the prejudice towards Black Americans like her son within the US legal system is no accident. In fact, there was plenty of uncertainty even in the Floyd case. For instance, the assault had to happen in public, be fully recorded, and successfully uploaded to social media. There would also be no #BlackLivesMatter if the footage were taken down before it went viral. Of course, BlackLivesMatter Movement has undoubtedly produced positive changes. Still, we must not overlook the fact that police brutality targeting Black Americans remains. There is still significant room for improvement for contemporary social media activism. And below M. Blockchain features radically legitimize digital upstandership, making activist-like media participation a user duty instead of a personal hobby.

M. Blockchain interprets upstander-like participation partially based on the analysis made in *Hashtag Activism* about the present challenges for digital activism. Many failed efforts of online social movements are the result of the network struggle of attracting original content, multidimensional discourse, and active users. The lack of engagement between opposing groups, the absence of a constructive exchange between the marginalized and the dominant groups often

kills the efficacy of the movements. While social media activism has bridged gaps between in-group members and groups that share similar agendas, beliefs, and struggles, it is still a challenge for meaningful interactions between already divided, even oppositional, social groups to take place on social media (Jackson, Bailey, Welles, 2020).

As a response to this analysis, the screen timer and engagement score are supposed to encourage the initiation of genuine inquiries as well as engagement in sensitive, sometimes even confrontational, dialogues amongst its users. In doing so, we are more likely to find recovery, inclusion, and reconciliation in replacement of the arbitrary stereotypes, prejudice, and assumptions we once held against one another.

M. Blockchain users are rated on their social engagement and content contribution on the platform. Starting with one point out of ten, users earn more points through interacting with other users and contents as well as producing new posts. Each point gives six minutes screen time. The score is capped at ten points to prevent addictive participation.

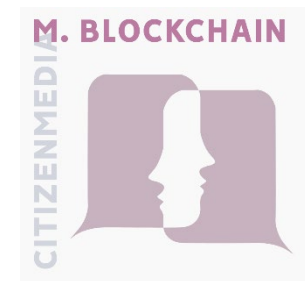
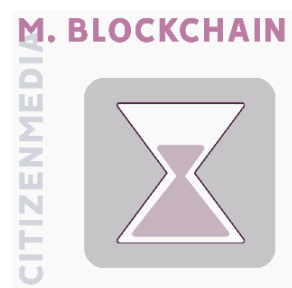


Figure 16 User Engagement Icon



The screen time permitted for each user caps at an hour per day to also deter mindless surfing. Users who do not engage at all can get ten minutes' free screentime every twenty-four hours. The app automatically shuts down when screen time runs out.

Figure 17 User Screen Timer Icon

Screen time in M. Blockchain becomes a reward to positively reinforce the voluntary initiations of social exchange. Regular engagement with this setting will not only increase the overall amount of user interactions, but also desensitize the users from the feeling of fear or stress when partaking in confrontational debates. The more they engage with a diversified range of posts, opinions, and narratives, the less difficult it gets.

Moreover, the maximum screen time restriction is also an attempt to reverse the exploitative relationship between users and traditional social media platforms. Echoing the title of this section, M. Blockchain users must contribute to consume. Consistent participation in M. Blockchain also entails an active user conditioning process that helps habituate key characteristics of individual upstandership as a natural part of the user's digital, and eventually overall personality.

De-gamifying Digital Socialization

Another goal for the above conditioning process is to return digital communication back to its natural human form. It is noted in philosopher Byung-Chul Han's *Psychopolitics: Neoliberalism and New Technologies of Power* that the current framework of user interaction in mainstream social media platforms mostly commit to "the gamification logic of 'likes,' 'friends,' 'followers'" that subordinates social communication to the mode of games. The corollary of the gamification of communication is its commercialization. It is safe to argue that we are actively distorting human communication as we engage with such subordinate modes of socialization. Digital platforms use technology to capitalize on things that are emotionally and psychologically predictable of their individual users. It is predictable that the gamification of user communication will turn the daily use of apps into an entertainment activity. Doing so simplifies user engagement at the cost of trivializing the overall social media culture. The fun and rewarding feelings from game-like experience are not the only feelings those platforms abuse to attract and retain users. Additionally, they know that most people enjoy the exercise of individual freedom. So, they standardized the marketing rhetoric that sugarcoats the obsessive pursuit of materialistic satisfaction as the modern way for one to exercise one's freedom (Han, 2019).

To respond to the above issue of over-trivialized user activities, M. Blockchain abandons the old categorizations of social activities consisting only of activities centered around personal interests: direct messages, likes, reposts, and paid performative self-promotions. Instead, it reorganizes the types of socializations into the below three categories.

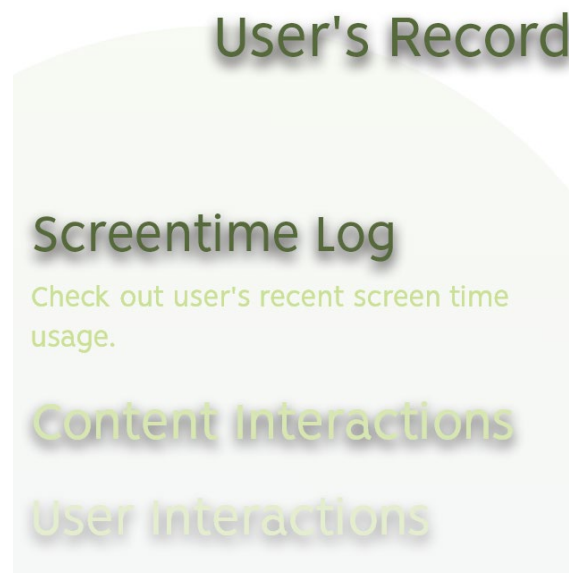


Figure 18 Three types of Social Activities

The public record of all three of those categories of user activities is also the most blockchain-like feature in M. Blockchain. The screentime log records the user's screentime usage up to a month. The content and user interaction tabs show the time-stamped records of user's every interaction with posts and other users for up to 14 days.

Amongst the above categories, the content and user interaction records are public all the time while the screentime log is only public when the user is online. Refer to Figure 19 for screentime logs when offline. This conditional access based on real-time presence adds a digital sense of connection to the offline world.

All three of the above records are only accessible through the profile pages of users. This means users only have access to the profiles of other users who also clicked into the same post as them. Since each user's algorithms and formulas are private, this makes target stalking or harassment even more difficult.

The records are also for viewing purposes only to restore the idea of personal boundaries and respect. What is not acceptable in real life, like forcing strangers to listen to one's unsolicited thoughts on their physical appearances, is also not an option in M. Blockchain.

Moreover, users cannot search for specific users by their M. Blockchain ID. In fact, user ID numbers exist only to facilitate user consumption of information free of biased to its teller. Inspired by the observation made in *Hashtag Activism* of our society's shared tendency to always value information with bias to its teller, M. Blockchain substitutes the display of username with the display of one's user ID number. Doing so minimizes the potential social implications of traditional username, making it easy for everyone to pay attention to what is said rather than who said it (Jackson, Bailey, Welles, 2020).

Last but not least, M. Blockchain removed the friend or follower feature altogether to eliminate performative allyship as well as cyberbullying and digital hate crimes. Performative allyship, noted in *Hashtag Activism* as well, became a hot issue, widely debated for when allyship becomes a social asset to one's online identity. It is a common phenomenon of users overemphasizing the practice of exhibiting their support online for social approval. This can cause more harm than good to the vulnerable groups at risk. To elaborate, #AllManCan started trending in 2014 to call out privileges reserved only for male to advocate for gender equality. Here are two example tweets that demonstrate what failed and performative allyship efforts look like:

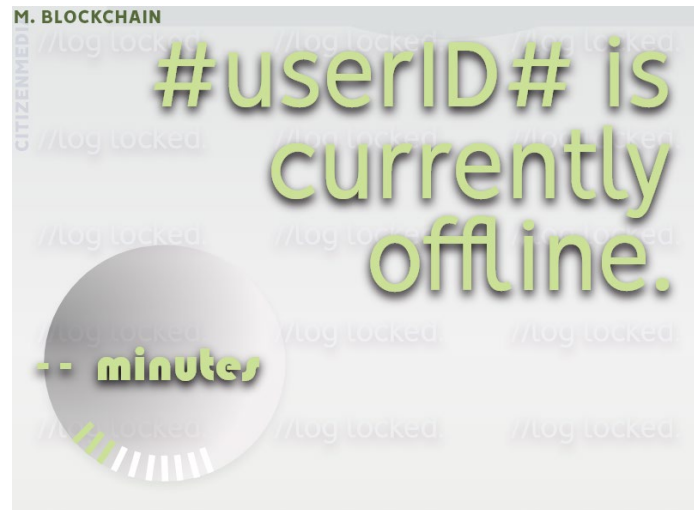


Figure 19 User Time Log when Offline

#AllManCan call out other men when they make sexist remarks...especially when women are not around.

#AllManCan desire and admire; respect and love; shelter and protect women! (Jackson, Bailey, Welles, 2020, p165).

Without the traditional set of audience made up of friends and followers, users can worry less about impressing others. Without searchable user profiles, users will not be gazed at by intentional parties for malicious harassment. And, finally, thanks to the removal of one-sided private interaction, the comment section becomes the only place in public where direct user interactions may take place. Which sets up the ideal environment that maximizes the likelihood for upstandership to happen now that every direct exchange has the potential to spark a public conversation.

For readers who are interested in the full prototype of this app, there is a link to the complete screen recording of the interactive experience of M. Blockchain's new user registration tutorial in appendix A.

Chapter 4: OCAD Exhibition 2023

The exhibition display will be set up in Room 701 in 205 Richmond Street in downtown Toronto. It opens on April 1st (Saturday) from 12 PM to 4 PM, and third (Monday) from 3 PM to 8 PM.

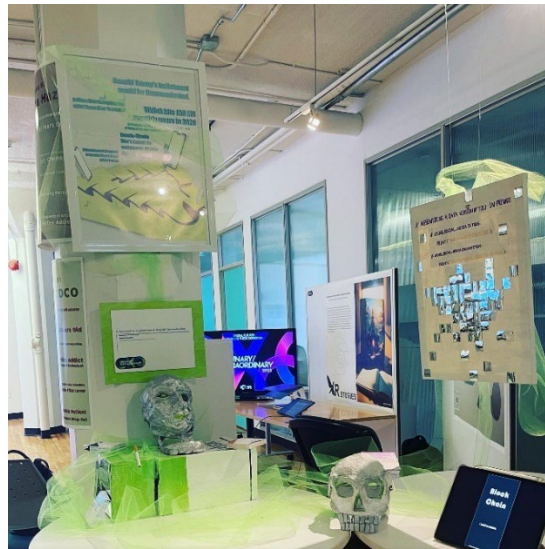


Figure 20 Full Exhibition Set-Up

The overall design choices of the set up included the use of the theme color of metallic neon green. Another key visual theme in this set up was the common use of reflective surfaces such as metallic silver paint and mirror stickers. The use of neon green mesh ribbons wrapped around all the art pieces and props dramatically enhanced the overall embedded presentation to increase the visual identity of all my speculative artworks as a design series.

The exhibition space allowed me, the artist, to lead the viewer experience in person. Given to small party of 1 to 4 interested viewers at a time, the presentation consisted of four discussions in the order of the Penrose Stairs, Skull Charger, the exhibition piece called the Mosaic Canvas, and the working prototype of M. Blockchain on the iPad. There was a structure in place to make sure the presentation thoroughly communicated the key research findings in relation to all the artworks in the series. From now on, I will describe the four discussions in their presentation order with reflections on viewer feedback.

Starting with the discussion around the Penrose Stairs poster, the optical illusion of the never-ending stairs is compared to the infinite production of digital information. Followed by the introduction of the visual hierarchy accompanied by the revelation of the tiny headlines of humanitarian struggles of marginalized groups that were often missed by the viewers. The

revelation surprised the viewers, which set the tone for the rest of the experience to be about upstandership and social justice digital media space. Out of all the contrasts between the big and tiny headlines, the one between Ukraine war and the food insecurity and military attacks displacement camps on the African continent received the most head nods. Most viewers agreed that the sharp difference accurately reflected their experiences where they knew the most about the war in Ukraine, central to western political interest, rather than the similar if not worse struggles happening simultaneously in African countries that is comparably less of western political interest. I then introduced the first research finding: the centralized exposure to heavily commercialized and politically polarized information comes with the selective exposure to only certain disadvantaged groups over others. I paused a bit before relating this finding to its critique: the default filtering of contents in centralized social media platform that prioritizes the west-centric political interests and commercial values over the imminent needs of marginalized groups that are suffering from humanitarian crises around the world.

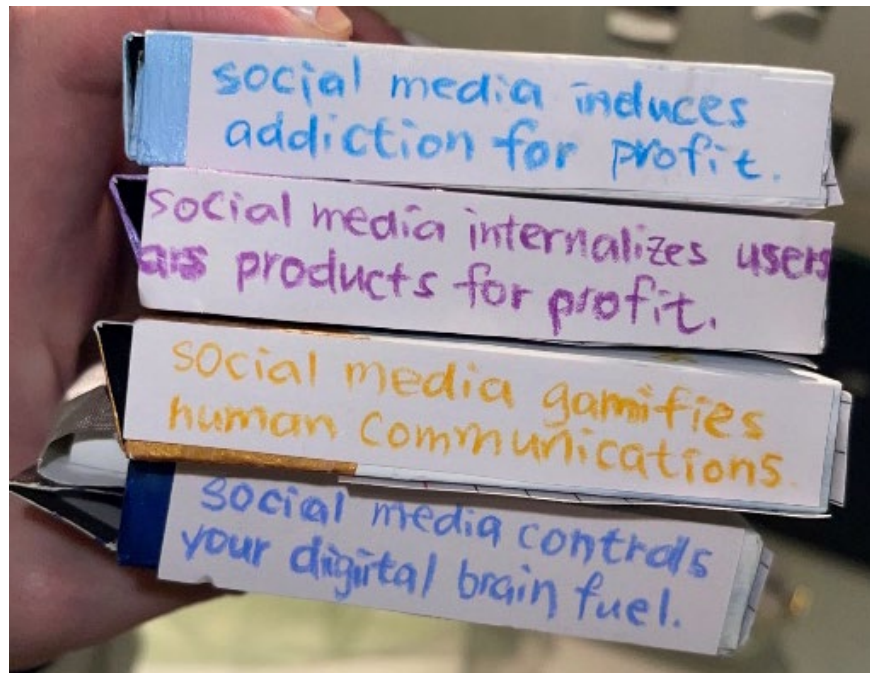


Figure 21 Social-Media Flavored Cigarette Packs Side Views

With the harm of selective exposure established, the presentation moves onto the discussion around the second piece, Skull Charger, that critiques social media addiction. Most viewers, especially those who smoke, appreciated the relatable and creative analogy of social media addiction to nicotine addiction. Some viewers said their impulsive desire to check their social media now reminded them of their need to smoke a cigarette. Many asked about this piece out of curiosity about the cigarette pack props. Among which the Snapchat pack that critiqued the gamification of human intimacy to streak counts was the most popular. Most viewers were convinced by the analysis of the harmful side of highly gamified digital communication. This

discussion ended with a question about the viewers' thoughts on the idea of screen time as digital labor. Some said that at least social media is free. Most replied that they never considered their screen time as a form of labor. Either way, the purpose of this concluding question is to introduce the notion of digital labor to transition into the next discussion on exploitation on the user data produced by their labor smoothly.



Figure 22 The Mosaic Canvas

Viewers who are now aware of the critical issues in the present digital environment are now prepared to discuss the exhibition prop, the Mosaic Canvas, which is inspired by the mosaic theory by Kokas (2023). This theory describes the cycle of centralized exploitation of mass user data as a derivative from its manipulative capitalist environment. This theory also provides crucial insight in support of advocating for individual testimonies and digital autonomy. The gradual assembling of the cubes of mirror stickers on canvas is a visual demonstration of the difference between individual data scattered separately versus gathering into the center. This visual demonstration successfully embodied the data phenomena described in

the theory. Emphasizing to viewers how easy it is for them to produce data online while reminding them how they do not get disclosure on the specific uses of their data pushed them to reconsider their online participation as a digital form of free labor that produces profitable data at the cost of our personal time, attention, and energy. Tying the lack of transparency in data trafficking to the common absence of digital literacy, I introduced the critique of the phenomenon discussed: the passive compliance of clueless users has allowed centralized social media companies to practice their businesses in the manipulative and exploitative way as is. Finally, the presentation comes to the last discussion where I introduce this thesis's response to the three discussions in the form of an interactive prototype of the speculative app, M. Blockchain.

First shown the poster in Figure 23 about the persona poster, viewers learnt that the prototype is an interactive simulation of what the registration process would be like for the persona of Mintcoco. The prototype interactions guided them through a full tutorial of the M. Blockchain app. Since M. Blockchain extensively reformed the social media space, the prototype experience

was repeatedly described as intense and interesting at the same time.



Figure 23 The Persona Poster of Mintcoco

viewers who were able to fully follow the prompt and pick responses based on their understanding of what Mintcoco would have wanted. This observation raises wonder as to if digital socialization, even when guided in public like an exhibition space with an explicit prompt, remains a highly personal activity in the viewers' subconscious. Lastly, most viewers were surprised, some felt disrupted, when their screen timer ran out which ended the prototype experience without their consent. They were used to having full control of their access to apps. Nonetheless, most viewers describe the overall exhibition experience, especially the app prototype, as extensively informative and critically intriguing, both making up for a fascinating direction for future research.

Besides demonstrating the detailed design of the app, this prototype experience also aimed to provoke the viewers into putting themselves in Mintcoco's shoes and imagining what they would do in the speculative environment of M. Blockchain. Upon observation, about one third of the viewers were evidently annoyed when they realize the prototype auto-filled inputs according to Mintcoco's preferences instead of theirs. On the contrary, the other one third of the viewers who found the persona of Mintcoco funny or relatable had an entertaining time clicking through the prototype. This is an example that supports the selective exposure theory, indicating a positive correlation between like mindedness and personal interest. Both these two thirds of viewers also picked responses based on their personal feelings here and there without considering the persona's indicated preferences. Then there were the one third of

Scope and Limitation

This thesis does not advocate for speculative design to be the only appropriate research method to approach this research topic. It also does not advocate for the key concepts it promotes as the only right type of online participation.

The speculative nature of my thesis inevitably limited the usability and accessibility of its design series, especially M. Blockchain. I would like to acknowledge this limit before I explain why it is justified and necessary in the specific context of this project. I chose to present M. Blockchain in the speculative lens because it is one of a kind, making it difficult to set user expectations. It is not a citizen journalist app because it does not have a centralized system of publication. The contents in user feed hardly count as publications for they cannot be accessed nor stored like E-magazines or E-books. It does not fit into the social media category either because it does not feature typical social media activities such as adding users as friends, following users, or directly searching up a user. Nor does it support features like direct messages, group chats, or repost that are given functions of contemporary social media. It is certainly not a non-profit app for charity of any sort.

Due to the difficulties above, fitting M. Blockchain into an existing category of digital platforms can only compromise this thesis's research intentions and goals. If presented independently as a working product, this app's overly complex interaction design and information system also can increase the likelihood of misuses and harm during its interaction with human participants. Therefore, presenting it as a speculative piece in a controlled environment with the artist's presence is the best way to ensure a safe viewer experience.

Technical constraints also restricted M. Blockchain from a successful market-ready release. To elaborate, the Project BLUESKY mentioned at the beginning of this thesis had begun its research on a decentralized social network of similar target audience, the global community, in 2021. Funded by the social media giant, Twitter, this project has had many researchers and engineers on its team who were the top in their field since the beginning. Yet, three years have passed, and it is still in BETA phase, recruiting more professionals as of April 2023 (The BlueSky Team, 2022). In the academic world, there are also limited research available on the practical application of the blockchain infrastructure to the wider discipline for human computer interactions beyond its original use for digitalized financial exchange (Elsden et al., 2018). Overall, as an individual with limited backend engineering experience, my pursuit of the speculative design method for this thesis is a deliberate decision based on a careful assessment of my academic priorities, technical capacity, and objective limitations.

Conclusion

Throughout this thesis, there are references of multiple secondary sources on various interdisciplinary studies related to the research topic of digital upstandership and decentralized social networks in relation to social empowerment in the lens of speculative design. Those studies covered a vast range of research topics such as utopian cyber independence and the illusion of digital freedom, the remaining challenges of contemporary social media activism in relation to the bigger socio-political media landscape, and the prevalent absence of digital literacy grounded in selectively gamified digital communication. Due to the intersectional nature of the social dilemmas this thesis critiqued, most of the social entities involved are collectively responsible. All of which showed the complimentary nature between society and its social issues. Social problems, like solutions, emerge from various conflicts of interests between social, commercial, political, and personal entities.

Therefore, the idea that any one of social entities can speak on the behalf of the rest of us about the solution to our problems or the standard of digital upstandership is an overgeneralizing attempt to appropriate and predominate the social narrative which is what centralized social networks have been doing for years. And the very notion of a dominant mainstream culture, including a universal standard of evaluation of social upstandership, inherently indicates a selective filtering of cultures which silently labels the rest that do not fit in the dominant culture as the subordinate minorities by default. As a result, instead of focusing on establishing a standard of upstandership through setting procedure or evaluating result, this thesis decides to introduce the notion of digital upstandership with an emphasis on cultivating a common user habit to consume critically and engage consciously. In this lens, the heuristic effort to discover one's individual standard of digital upstandership as well as the continuous practice of upholding it in personally actionable ways can both be mutually beneficial to the individual and the community. Nonetheless, good intentions, as subjective as they can get, are not always effective in the prevention of harm or hate. Though speculative, the digital future this thesis proposed does not lead to a utopia of any sort. Still, there is value in the replacement of the wheel of capitalist monopoly and the digital marginalization it fuels with the prevalence of digital autonomy in which technology becomes a tool that serves instead of skews democracy.

Proposing the cultivation of voluntarily complementary social collaborations as a substitute for the pursuit of acquisitive obsessions, this thesis imagines a new type of decentralized social and information orders that employ technology to ground themselves in upstander-like values, creating spaces that invites inquiries and debates, centered around the potential social empowerment of minority groups. The integration of digital socialization and incidental exposure through decentralized design is an attempt to bridge the gap between historically divided social groups in casual yet educational ways. As mentioned in Chapter 3, the more

centralized a system is, the higher chance for corruption and fraud to happen, and the more likely it is for it to serve the powerful minority. Like how digital exposure becomes toxic to the public only when information is selectively filtered against the public interest, so does centralized social orders to those who are at the bottom of the social hierarchy. Ranking communities, cultures, and civilizations based on the preferences of the few with the most power only worsens the already heavily imbalanced power dynamics. Combined with the network effects, it only accelerates the already rapid snowballing of centralized digital platform's dominance over its users. And every day we choose to keep settling for the present, we are actively denying ourselves the key to the future.

All in all, the speculative exploration of digital upstandership is a means to an end of a radical reimagination of a digital future where upstanders become the new norms, and their differences, no longer justifying hostility, inspire curiosity. At the end of the day, the goal is to plant the seed of upstandership in the ordinary user's mind that may blossom over time into actionable efforts. When that time comes, the citizenry of upstanders may bring to life what is now just a blurry vision of a better future, where a digital cosmopolitan emerges on the back of true democracy.

Epilogue

I would like to share my personal reflection on the few interesting questions asked repeatedly by different individuals on the third piece of this thesis, the speculative citizen media app, M. Blockchain. The first question is: why would someone want to use M. Blockchain?

Come to think, the last time I asked myself something similar was during junior year in undergraduate when I struggled in College Algebra. Why would anyone want to read difficult math textbooks? The answer to that is obvious: it is part of the curriculum. Algebra textbooks are not written to attract readers, but to educate. Similarly, M. Blockchain advocates for digital upstandership as the new curriculum for modern users to study. The textbook of digital upstandership, like College Algebra textbooks for many, is not going to be a happy nor easy read. But it is going to be a valuable one, for both the readers and the authors.

The second question is: if your platform doesn't do anything, what can protect your users from hate speech or cyber bullying? This question made me hesitate about adding direct measures of regulation in-app. But that requires a set of universal standards of rules and policies. And the enforcement of this set entails some sort of centralized management. Is direct interference from centralized mediator the only option we got? Since when are we this desperately dependent upon companies to safeguard our interests for us? Those who have used social media know that those platforms have been implementing regulatory measures for years. Yet, hate speech online remains relevant on centralized social networks to this day. The same thing can be said about prisons and criminals. There are criminals who served once and never went back. Then there are the ones who come and go all the time. My point is that focusing on institutional upstandership alone is insufficient. If the scale is heavily tilted, there is no complimentary social collaboration which often renders the one-sided institutional efforts useless.

But am I just going to sit in the speculative dimension and watch the M. Blockchain community burn with flames of hate and despair? Of course not. The open social activities record feature alone is clearly not enough for many users to feel safe about the platform. How can I use decentralization to the advantage of upstandership to further discourage hostile behaviors? This is how I came up with the idea to remove personal connection, target profile search, and view-only profile.

Users cannot have friends or followers. Nor can they be found by or find other users. This way, combined with interest-based filtering of content, they have an extremely slim chance of coming across people they know, let alone worrying about impressing them. And one may be concerned that this will make users less motivated to perform socially. Some may take this as a chance to act worse. If this is valid, then so must the opposite: some may take it as an opportunity to act

better and branch out. And since everyone's feed algorithms are private, even if you come across something intolerable, you are likely not going to see that thing again.

In M. Blockchain, direct interactions can only happen in the public space of user content feed. So, if anyone is acting nasty, everyone else can see it. And other users know that the platform will not interfere. They also know that doing something will increase their engagement score, gaining more screentime. So, instead of swiping away, they may feel more motivated to wonder: what can I do about it? This voluntary inquiry itself is the beginning of one's relationship with individual upstandership. Actively working on this relationship, one will find it gets easier every time for one to find the strength within oneself to just say something anyway.

The third question is: why would I want to do all that work before getting a feed when I can get one instantly in other apps? I must admit that, out of all the things M. Blockchain prioritizes delivering, convenience is not one of them. The same question can be asked about people eating out with food at home. The modern age has brought us endless options, and we make choices all the time. But do we fully understand why we choose what we choose and for what our choices sign us up? And do we understand them correctly? Recognizing how novel the idea of decentralized networks is, I made this thesis to advocate for the value in decentralized system's nonpartisan distribution of all types of digital contents. The reality it reflects may not always be pretty for it is unfiltered. But what makes it raw also makes it real. Upstanders in authoritarian regimes must pay a much scarier price for speaking up. Even then, many of them still disappeared in silence long before their inquiries were answered, if not buried. M. Blockchain users, on the other hand, only need to occasionally sacrifice their peace of mind to gain an algorithmically equitable level of freedom of expression as well as representation, surrounded by original and diverse content as well as people. If this deal is not good, I do not know what is.

The production process of this thesis is challenging and educational. I learned of speculative design as a design approach as well as a research framework. The creative production consists of three rounds of presentations of working prototypes. The feedback I got from my peers helped me shape my argument and design. Most importantly, I have grown as a student as I received useful critiques not just about my writing habits, but also my learning attitude. My primary advisor noted my tendency to rush to comprehend feedback which results in overgeneralized and often inaccurate absorption of knowledge. This lack of patience and urge for approval posted challenge in the writing process of this thesis. I am grateful for this insightful critique as I now consciously work on the prevention of similar mistakes.

Using my above mistake as an example, I would like to illustrate one last time the importance of complementary collaboration. The complementary efforts between me and my advisors made the completion of this thesis possible. My advisors did not write nor make this thesis. But they spent hours giving advice that elevated my work. Me, at one point, spent more hours than I should making edits on this document without properly comprehending their feedback. As a result, the draft's quality did not at all reflect the amount of time I put into it. Had I continued with such

useless efforts, no piles of feedback from my advisors would get me to the graduation ceremony on time. And this is why the value of efforts comes not from its amount, but effectiveness to its goal. And collaboration needs to be complementary to be effective. And I sure hope this thesis reflects a successful collaboration between me and my advisors as it demonstrates a compelling argument about the significance of digital upstandership in the context of social empowerment, especially for marginalized minorities.

I proposed the speculative disintegration of centralized media power in rejection of the common assumption about ordinary users as powerless and insignificant. My conviction in this project rests in the belief that we as ordinary individuals can create changes in the world even if we are not in a position of power or influence. And the proposal about digital upstandership takes root in my faith in humanity, democracy, and solidarity.

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Appendices

Appendix A: M. Blockchain's new user registration tutorial

The link below takes you to the screen recording of the full interaction process with the M. Blockchain prototype that is made in Adobe XD and exhibited in the OCAD Exhibition 2023. The overall prototype experience is designed to simulate the first-time registration process of the user persona, Mintcoco. The registration process is structured like a tutorial that progressively covers every key feature of M. Blockchain as well as the explanation of the key concepts that shaped the designs of those features in a casually concise manner.

[Screen recording of M. Blockchain .mp4](#)

Uploaded on April 28th, 2023.

This MP4 file is accessible only to OCAD University personnels.